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a first receive coil positioned offset from said transmit coil such that said first receive coil does not overlap said transmit coil, said first receive coil is not in a plane that is parallel to a plane that has said transmit coil therein, and said first receive coil is not coaxial with said transmit coil, wherein said transmit coil and said first receive coil define a first detection field,

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a second receive coil positioned such that said second receive coil at least partially overlaps said transmit coil, wherein said transmit coil and said second receive coil define a second detection field which is smaller than said first detection field and is substantially encompassed within said first detection field,

a frame supporting said transmit and said receive coils, and

a metal detector circuit connected to said transmit and said receive coils for detecting the presence of metal objects in said detection fields.

3. (Amended) A dual field metal detector [as recited in Claim 1] comprising:

a transmit coil,

ax
a first receive coil positioned offset from said transmit coil such that said first receive coil does not overlap said transmit coil, wherein said transmit coil and said first receive coil define a first detection field,

a second receive coil positioned such that said second receive coil at least partially overlaps said transmit coil, wherein said transmit coil and said second receive coil define a second detection field which is smaller than said first detection field and is substantially encompassed within said first detection field and wherein said first receive coil is positioned perpendicular to said second receive coil,

a frame supporting said transmit and said receive coils, and

a metal detector circuit connected to said transmit and said receive coils for detecting the presence of metal objects in said detection fields.

4. (Amended) A dual field metal detector [as recited in Claim 1], comprising:

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a transmit coil,

a first receive coil positioned offset from said transmit coil such that said first receive coil does not overlap said transmit coil, wherein said transmit coil and said first receive coil define a first detection field, wherein said transmit coil is perpendicular to said first receive coil.

02 a second receive coil positioned such that said second receive coil at least partially overlaps said transmit coil, wherein said transmit coil and said second receive coil define a second detection field which is smaller than said first detection field and is substantially encompassed within said first detection field,

a frame supporting said transmit and said receive coils, and

a metal detector circuit connected to said transmit and said receive coils for detecting the presence of metal objects in said detection fields.

REMARKS

In the office action dated 1/5/99, claims 11-18 were allowed and claims 3 and 4 were indicated as being objected to. Claim 1, 5-7 and 10 were rejected under 35 U.S.C. § 102 as being anticipated by the patent to McDaniel and claims 1, 2 and 5-10 were rejected under 35 U.S.C. § 102 or as being anticipated for obviousness under 35 U.S.C. § 103 over the patent to Morita et al. Reconsideration of the pending claims as amended is respectfully requested.

Claims 3 and 4 have been rewritten in independent form encompassing all the limitations of the parent claim.

Pending claim 1 has been amended to define a structural configuration that is distinct from that shown in the prior art noted in the office action. These amendments clarify and emphasize the offset nature of the transmit and first receive coil. In particular, the claim now states that the respective planes which contain the first receive coil and the transmit coil are not parallel, thus the planes of these coils must be at some angle to each other. Further, the claim now specifically states that the first receive coil is not coaxial with the transmit coil. Therefore, the axes of these coils must be offset.